--This nonprovisional application claims priority under 35 USC §119(e) on U.S. Provisional Application No. 60/070,792 filed on January 8, 1998, which is herein incorporated by reference.--

In the Claims

Please cancel pending claims 1-16 without prejudice or disclaimer of the subject matter contained therein.

Please add the following new claims:

18. (New) A method for screening test compounds for bioactivity, comprising
(a) contacting an array of test compounds held on a solid support, on a porous membrane, or on a non-porous substrate with a detector layer such that each test compound comes into contact with a localized liquid which is in contact with the detector layer; and
(b) detecting a response of the detector layer to the test compound,
wherein a response is indicative of a bioactive compound.

19. (New) The method of claim 18, wherein the detector layer is comprised of physiologically viable cells.

20. (New) The method of claim 19, wherein the physiologically viable cells form a monolayer.

21. (New) The method of any one of the preceding claims, wherein the response is recorded by a sequence of images.

22. (New) The method of claim 18, wherein the array of test compounds comes into contact with the detector layer during the course of measurement.

23. (New) The method of claim 18, wherein the detector layer is scintillant plastic.

24. (New) The method of claim 18, wherein the detector layer is a pH sensing surface.

25. (New) The method of claim 18, wherein the detector layer is a temperature sensing surface.

26. (New) The method of claim 18, wherein the detector layer is supported by an optically clear substrate.

27. (New) A method according to claim 18, wherein the test compounds are held on a porous membrane or non-porous substrate.

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28. (New) A method according to claim 27, wherein the porous membrane is constructed of a non-absorbent material with pores of regular and defined diameter which traverse the membrane directly from the upper to the lower side.

29. (New) The method according to any of claims 27 or 28, wherein the test compounds are allowed to diffuse from the porous membrane or non-porous substrate into a liquid layer overlaying the detector layer.

30. (New) The method according to claim 18, wherein the test compounds are held on a solid support.

31. (New) The method according to claim 30, wherein the test compounds are allowed to diffuse via a porous membrane to the liquid layer surrounding the detector layer.

32. (New) The method of claim 18, wherein the detector layer is held stationary in the field of view of an optical detector and the array of test compounds is moved into contact with said detector layer during the course of measurement.

33. (New) The method of claim 18, wherein the array of test compounds is held stationary in the field of view of an optical detector and the detector layer is moved into contact with said array of test compounds during the course of measurement.

34. (New) The method of claim 19 or 20, wherein the detected response is a change in a luminescence property of the physiologically viable cells in the detector layer.

35. (New) The method of claim 34, wherein the detected response is a change in a fluorescence property of the physiologically viable cells in the detector layer.

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36. (New) The method of claim 18, wherein the array of test compounds is generated on the solid support by combinatorial chemistry.

37. (New) The method of claim 18, wherein the array of test compounds is generated by one- or two-dimensional gel electrophoresis.

(38) (New) The method of claim 18, wherein the array of test compounds are viral or bacteriophage particles engineered to display compounds upon their surfaces.

REMARKS

1. Status of the Claims

Claims 1-16 are currently under consideration. Applicant has cancelled claims 1-16 without prejudice or disclaimer of the subject matter contained therein and reserves the right to pursue the cancelled subject matter in a divisional application. Applicant has cancelled the pending claims and has presented new claims 18-38 in order to maintain the proper order of dependency in the claims. Support for claim 18 may be found in originally filed claims 1, 14, 15 and 16. Support for claim 19 may be found in originally filed claim 2. Support for claim 20 may be found in originally filed claim 11. Support for claim 21 may be found on 17, lines 14-15 of the Specification. Support for claim 22 may be found in originally filed claims 7 and 8. Claims 23-26 are based on originally filed claims 3-6. Support for claims 27 and 29 may be found